



GROUNDWATER MONITORING REPORT AND NO FURTHER ACTION REQUEST DECEMBER 2015

CHESNUT G 22-6 TANK BATTERY COGCC REMEDIATION #4316

LT Environmental, Inc. (LTE), under the direction of Noble Energy, Inc. (Noble), conducted corrective actions and groundwater monitoring at the Chesnut G 22-6 Tank Battery (Site) located 0.48 miles south of County Road 44 and 0.07 miles east of County Road 43 in Weld County, Colorado. The legal site description is the southwest quarter of the northwest quarter of Section 22, Township 4 North, Range 65 West, 6th Principal Meridian. The Site Location Map is provided as Figure 1.

Site history and remediation activities were described in preceding reports, including Phase I and Phase II of the remediation program which involved excavation source removal and operation of an air sparging and soil vapor extraction (AS/SVE) system, respectively. Phase III of the remediation program included subsurface injections of Chemically Oxygenated Granular Activated Carbon (COGAC™), which is designed for *in-situ* remediation of petroleum hydrocarbon under aerobic conditions.

Remediation Activities

Source removal at the Site was achieved by excavation activities and operation of an air sparge/soil vapor extraction (AS/SVE) system. Please see the LTE *Excavation Summary Report*, dated April 2009, for details regarding excavation activities. On August 24, 2010, operation of the AS/SVE system was initiated. On January 15, 2015, an enhanced fluid recovery (EFR) program was initiated to assist in remedial activities and promote groundwater convection at the Site. The EFR program was discontinued following the EFR event on March 5, 2015. The EFR program removed approximately 15 pounds of vapor-phase and dissolved-phase petroleum hydrocarbon from the subsurface. A summary of the EFR activities is provided in Table 1. On April 22, 2013, operation of the AS/SVE system was discontinued to begin groundwater monitoring under static conditions. The AS/SVE system removed approximately 853 pounds of petroleum hydrocarbons from the subsurface.

Due to recalcitrant benzene concentrations at the Site, additional groundwater remediation activities were implemented. On January 14 through 17, 2014, in accordance with United States Environmental Protection Agency (EPA) Rule Authorization (File #CO50000-10209), subsurface carbon slurry injections were completed at 43 discrete points at the Site. The injections occurred between 5 feet and 20 feet below ground surface (bgs) with a total of 3,825 pounds of COGAC™ being injected into the groundwater saturated interval. On August 7 through 8, 2014, in accordance with EPA Rule Authorization (File #CO50000-10209), subsurface carbon slurry injections were completed at 18 discrete points at the Site. The injections occurred between 5 feet and 20 feet below ground surface with a total of 1,700 pounds of COGAC™ being injected into the groundwater saturated interval. On April 10, 2015, in accordance with EPA Rule Authorization (File #CO50000-10209), subsurface carbon slurry injections were completed at 10 discrete points

at the Site. The injections occurred between 10 feet and 20 feet bgs with a total of 1,000 pounds of COGAC™ being injected into the groundwater saturated interval. The site history and remedial activities were discussed in preceding reports.

Groundwater Monitoring Program

Due to a documented reduction in benzene plume size by a minimum of four quarters of groundwater monitoring results in compliance with applicable Colorado Department of Public Health and Environment-Water Quality Control Commission Regulation 41-The Basic Standards for Ground Water (WQCC Reg 41) standards, LTE, under the direction of Noble, requested a reduction in the monitoring wells included in the groundwater monitoring program and proposed continued sampling at monitoring wells MW02, MW03R, MW04, MW05R, MW06, MW10, MW11, MW15, MW16R, MW17R, and MW23R. Monitoring wells MW01, MW07, MW08R, MW09R, MW12, MW13, MW14, MW18R, MW19R, MW26, and MW32 were removed from the groundwater monitoring program per Colorado Oil and Gas Conservation Commission (COGCC) approval (Document # 2142662). Monitoring wells MW14, MW20 through MW22, MW24, MW25, and MW27 through MW31 were destroyed due to agricultural activities. Point of compliance was established and the aforementioned monitoring wells were not replaced.

Groundwater Monitoring and Results

On December 29, 2015, under the direction of Noble, LTE personnel conducted groundwater monitoring activities in 11 monitoring wells (MW02, MW03R, MW04, MW05R, MW06, MW10, MW11, MW15, MW16R, MW17R, and MW23R). Prior to purging, depth to groundwater was measured and recorded for calculating well-specific target purge volumes and groundwater elevations. During the December 2015 monitoring event, depth to groundwater ranged from 8.65 feet below top of casing (btoc) in monitoring well MW04 to 13.35 feet btoc in monitoring well MW03R. Groundwater was calculated to flow northeast with an average hydraulic gradient of 0.029 feet per foot. Groundwater elevations are presented on Figure 2 and summarized in Table 2. Following purging, samples were collected, placed on ice, then submitted with a completed chain of custody form to Origins Laboratory, Inc. of Denver, Colorado, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260C.

The WQCC Reg 41 standards for BTEX are 5.0 micrograms per liter ($\mu\text{g/L}$), 560 $\mu\text{g/L}$, 700 $\mu\text{g/L}$, and 1,400 $\mu\text{g/L}$, respectively. Laboratory groundwater analytical results indicated all groundwater samples were in compliance with applicable WQCC Reg 41 standards. Laboratory groundwater analytical results are presented on Figure 3 and summarized in Table 2. The laboratory analytical report is attached.

Summary and Conclusions

Source removal at the Site was achieved via excavation activities and operation of an AS/SVE system. During excavation activities, approximately 2,190 cubic yards of impacted soil was removed and transported to the Noble Land Treatment Facility in Weld County, Colorado, for final disposal. The AS/SVE system operated from August 24, 2010, to April 22, 2013, and removed approximately 853 pounds of petroleum hydrocarbons for the subsurface. Laboratory soil analytical results from the final excavation confirmation soil samples and subsequent monitoring

well installation indicated that cleanup goals were achieved and the soil at the Site is in compliance with applicable COGCC Table 910-1 standards. Historical soil analytical results are presented on Figure 4 and summarized in Table 3. The December 2015 groundwater monitoring event constitutes the fourth consecutive quarter, under static conditions, in which all monitoring wells in the monitoring program have been in compliance with applicable WQCC Reg 41 standards. Since soil and groundwater have been remediated to achieve cleanup goals, Noble respectfully requests that the COGCC grant a No Further Action status for the Chestnut G 22-6 Tank Battery.

FIGURES



LEGEND

- ⊗ MONITORING WELL
- ⊗ MONITORING WELL REMOVED FROM MONITORING PROGRAM
- ⊗ ABANDONED/DESTROYED MONITORING WELL
- M METER HOUSE
- ↑ CALCULATED GROUNDWATER FLOW DIRECTION
- UNDERGROUND UTILITY
- AGRICULTURAL FIELD BOUNDARY
- RELATIVE GROUNDWATER ELEVATION CONTOUR IN FEET
CONTOUR INTERVAL = 1 FOOT
GRADIENT = 0.029 FEET/FOOT
RELATIVE GROUNDWATER ELEVATIONS
WERE MEASURED ON DECEMBER 29, 2015
- METAL BERM
- DIRT BERM
- AST: ABOVEGROUND STORAGE TANK
- ECD: EMISSION CONTROL DEVICE

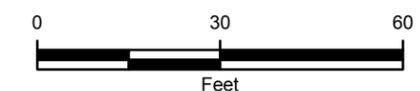
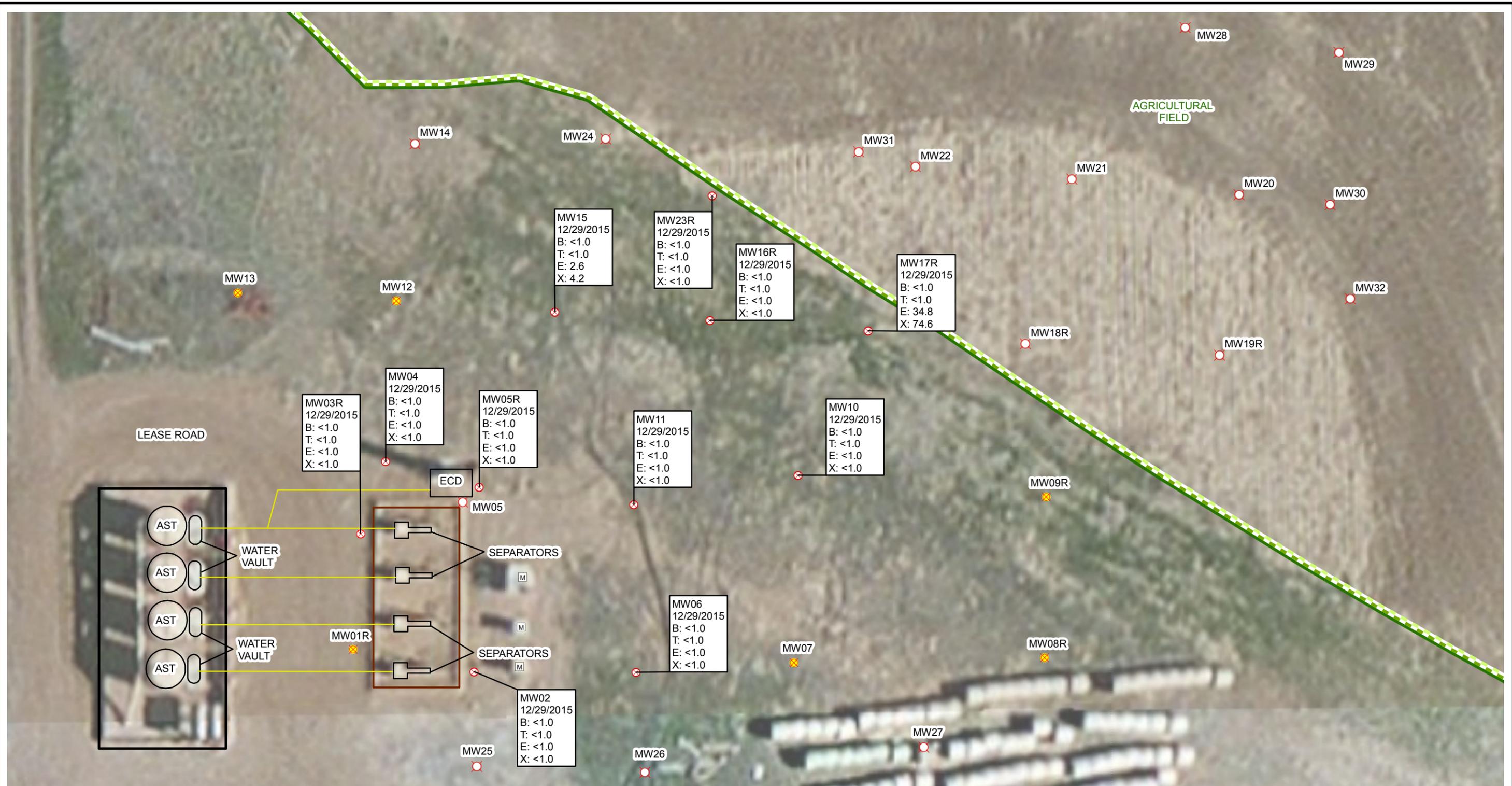


IMAGE COURTESY OF ESRI



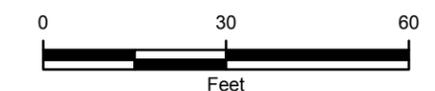
FIGURE 2
RELATIVE GROUNDWATER ELEVATION MAP
CHESNUT G 22-6 TANK BATTERY
SWNW SEC 22-T4N-R65W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.





LEGEND

- MONITORING WELL
- MONITORING WELL REMOVED FROM MONITORING PROGRAM
- ABANDONED/DESTROYED MONITORING WELL
- METER HOUSE
- UNDERGROUND UTILITY
- AGRICULTURAL FIELD BOUNDARY
- METAL BERM
- DIRT BERM
- AST: ABOVEGROUND STORAGE TANK
- ECD: EMISSION CONTROL DEVICE



SAMPLE ID
 SAMPLE DATE
 B: BENZENE IN MICROGRAMS PER LITER (µg/L)
 T: TOLUENE (µg/L)
 E: ETHYLBENZENE (µg/L)
 X: TOTAL XYLENES (µg/L)
 <: LESS THAN LABORATORY METHOD DETECTION LIMIT

FIGURE 3
 GROUNDWATER ANALYTICAL RESULTS
 CHESNUT G 22-6 TANK BATTERY
 SWNW SEC 22-T4N-R65W
 WELD COUNTY, COLORADO
 NOBLE ENERGY, INC.



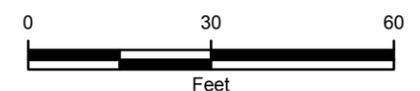


FIGURE 4
HISTORICAL SOIL ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
SWNW SEC 22-T4N-R65W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.



TABLES

TABLE 1

**ENHANCED FLUID RECOVERY SUMMARY
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Elapsed Time (minutes)	Volume Water Recovered (gallons)	Volume LNAPL Recovered (gallons)	Benzene Vapor Concentration* (µg/L)	Mass TPH Vapor Recovered (pounds)	Total Volume TPH Recovered (gallons)
MW05	1/15/2015	0	0	60	42	0.42	31,650	0.0148	0.42
	1/22/2015	0	0	60	42	0.42	31,650	0.0148	0.42
	1/29/2015	0	0	60	84	0.84	31,650	0.0148	0.84
	3/5/2015	0	0	45	42	0.42	31,650	0.0111	0.42
Total gallons of hydrocarbons recovered to date									2
Total pounds of hydrocarbons recovered to date									15

NOTES:

LNAPL - light non-aqueous phase liquid

TPH - total petroleum hydrocarbon

µg/L - micrograms per liter

* - benzene vapor concentration calculated using Henry's Law dimensionless constant and groundwater benzene concentrations

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
COGCC REMEDIATION #4316
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW01	1/13/2009	15.11	NM	26,400	8,320	536	8,800
	3/5/2010	14.60	NM	26,100	6,270	666	11,090
MW01R	12/2/2010	8.68	88.25	5,600	161	37.1	1,550
	3/14/2011	15.33	81.60	1,010	<1.00	<1.00	12.8
	6/2/2011	9.89	87.04	1,080	<1.0	13.5	1,400
	9/12/2011	2.96	93.97	1,560	<1.0	84.5	1,510
	12/9/2011	7.80	89.13	427	<1.0	34.5	945
	3/22/2012	13.50	83.43	<1.0	4.17	<1.0	<1.0
	6/8/2012	4.56	92.37	5.8	<1	<1	19.3
	9/18/2012	4.04	92.89	7.1	<1.0	3.1	100
	12/3/2012	6.53	90.40	<1.0	<1.0	<1.0	<1.0
	3/22/2013	13.78	83.15	<1.0	<1.0	<1.0	2.89
	6/18/2013	5.35	91.58	<1.0	<1.0	<1.0	<1.0
	9/17/2013	1.60	95.33	<1.0	<1.0	<1.0	<1.0
	12/11/2013	8.41	88.52	<1.0	<1.0	1.12	4.16
	3/4/2014	13.79	83.14	<1.0	<1.0	<1.0	<1.0
	6/27/2014	4.18	92.75	<1.0	<1.0	<1.0	<1.0
	9/24/2014	3.35	93.58	<1.0	<1.0	<1.0	<1.0
12/31/2014	8.20	88.73	<1.0	<1.0	<1.0	<1.0	
Removed from monitoring program							
MW02	1/13/2009	15.12	83.02	3,460	1,420	199	6,120
	3/5/2010	15.95	82.19	857	3.61	151	1,448.61
	9/20/2010	6.00	92.14	338	<1.0	104	2,256.14
	12/2/2010	10.04	88.10	125	<1.0	147	1,590
	3/14/2011	16.40	81.74	37.4	<1.00	22.0	266
	6/2/2011	13.02	85.12	<1.0	<1.0	<1.0	<3.0
	9/12/2011	5.38	92.76	4.9	<1.0	2.4	9.5
	12/9/2011	10.00	88.14	<1.0	<1.0	2.17	20.4
	3/22/2012	16.19	81.95	1	2.36	9.88	47.2
	6/8/2012	7.45	90.69	<1	<1	<1	<1
	9/18/2012	6.97	91.17	<1.0	<1.0	<1.0	2.1
	12/3/2012	8.49	89.65	<1.0	<1.0	<1.0	<1.0
	3/18/2013	15.99	82.15	<1.0	<1.0	14.8	60.3
	6/18/2013	7.62	90.52	<1.0	<1.0	<1.0	<1.0
	9/17/2013	3.46	94.68	<1.0	<1.0	<1.0	<1.0
	12/11/2013	10.39	87.75	<1.0	<1.0	<1.0	<1.0
3/4/2014	16.18	81.96	<1.0	<1.0	12.9	25.8	

TABLE 2 (Continued)

GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW02	6/27/2014	6.60	91.54	<1.0	<1.0	<1.0	<1.0
	9/24/2014	3.25	94.89	<1.0	<1.0	<1.0	<1.0
	12/31/2014	10.64	87.50	<1.0	<1.0	<1.0	<1.0
	3/31/2015	16.24	81.90	<1.0	<1.0	8.2	17.3
	6/25/2015	7.01	91.13	<1.0	<1.0	<1.0	<1.0
	9/9/2015	5.00	93.14	<1.0	<1.0	<1.0	<1.0
	12/29/2015	11.21	86.93	<1.0	<1.0	<1.0	<1.0
MW03	1/13/2009	15.06	NM	11,700	7,860	195	5,950
MW03R	3/18/2013	17.72	NM	<2.0	<2.0	1.98	27.5
	6/18/2013	10.33	87.92	<1.0	<1.0	<1.0	<1.0
	9/17/2013	5.84	92.41	1.2	<1.0	<1.0	<1.0
	12/11/2013	12.71	85.54	<1.0	<1.0	<1.0	<1.0
	3/4/2014	17.72	80.53	1.9	<1.0	<1.0	<1.0
	6/27/2014	8.70	89.55	<1.0	<1.0	<1.0	<1.0
	9/24/2014	7.78	90.47	1.8	<1.0	<1.0	<1.0
	12/31/2014	7.62	90.63	<1.0	<1.0	<1.0	<1.0
	3/31/2015	17.88	80.37	<1.0	<1.0	<1.0	<1.0
	6/25/2015	9.40	88.85	2.1	<1.0	<1.0	<1.0
	9/9/2015	6.94	91.31	<1.0	<1.0	<1.0	<1.0
	12/29/2015	13.35	84.90	<1.0	<1.0	<1.0	<1.0
	MW04	1/13/2009	13.13	84.15	19,700	7,460	555
3/5/2010		15.71	81.57		Not sampled - Sheen on water		
9/20/2010		3.70	93.58	563	<10.0	<10.0	6,027
12/2/2010		9.33	87.95	664	42	19.1	4,710
3/14/2011		14.94	82.34	713	<10.0	113	6,510
6/2/2011		9.10	88.18	233	<1.0	31.8	457
9/12/2011		3.40	93.88	23.8	<1.0	6.8	124
12/9/2011		9.60	87.68	57.2	<1.0	3.62	90.3
3/22/2012		14.21	83.07	295	5.33	5.99	53.7
6/8/2012		4.57	92.71	14.3	<1	<1	14.4
9/18/2012		3.32	93.96	3.5	<1.0	1.3	59.0
12/3/2012		8.80	88.48	<1.0	<1.0	<1.0	<1.0
3/18/2013		13.83	83.45	10.2	<1.0	1.49	6.27
6/18/2013		5.54	91.74	27.7	<1.0	<1.0	<1.0
9/17/2013		1.07	96.21	1.39	<1.0	1.27	3.68
12/11/2013		8.69	88.59	1.26	<1.0	<1.0	<1.0
3/4/2014		13.20	84.08	1.9	<1.0	1.3	<1.0
6/27/2014		4.02	93.26	2.6	<1.0	<1.0	<1.0
9/24/2014		3.63	93.65	<1.0	<1.0	<1.0	<1.0

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW04	12/31/2014	7.58	89.70	<1.0	<1.0	<1.0	<1.0
	3/31/2015	13.07	84.21	<1.0	<1.0	<1.0	<1.0
	6/25/2015	4.79	89.01	<1.0	<1.0	<1.0	<1.0
	9/9/2015	1.41	92.39	<1.0	<1.0	<1.0	<1.0
	12/29/2015	8.65	85.15	<1.0	<1.0	<1.0	<1.0
MW05	1/13/2009	14.58	82.39	15,500	14,900	412	6,860
	3/5/2010	16.06	80.91		Not sampled - LNAPL present		
	9/20/2010	6.60	90.37	12,700	1,500	522	8,190
	12/2/2010	10.48	86.49	14,700	185	122	5,650
	3/14/2011	16.16	80.81	67.9	<1.00	<1.00	112
	6/2/2011	13.25	83.72	143	<1.0	<1.0	13.0
	9/12/2011	5.96	91.01	5,050	22.5	59.1	2,680
	12/9/2011	10.70	86.27	8,790	10.6	<10.0	659
	3/22/2012	--	--		Not Sampled - Dry		
	6/8/2012	8.36	88.61	337	<1	<1	4.4
	9/18/2012	7.68	89.29	1,249	1.1	3.8	59.3
	12/3/2012	10.08	86.89	<1.0	<1.0	<1.0	<1.0
	3/18/2013	16.25	80.72	<1.3	<1.3	<1.3	<4.0
	6/18/2013	9.58	87.39	2.44	<1.0	<1.0	1.88
	9/17/2013	4.21	92.76	7.97	<1.0	<1.0	2.27
	12/11/2013	10.70	86.27	155	<1.0	<1.0	6.04
	3/4/2014	15.92	81.05	49.8	<1.0	<1.0	<1.0
	6/27/2014	7.80	89.17	88.1	<1.0	1.1	6.3
	9/24/2014	6.39	90.58	182	1.0	2.6	12.5
	12/31/2014	10.25	86.72	25.4	<1.0	<1.0	2.0
MW05R	4/9/2015	15.59	80.70	<1.0	<1.0	<1.0	<1.0
	6/25/2015	8.01	88.28	<1.0	<1.0	<1.0	<1.0
	9/9/2015	5.71	90.58	<1.0	<1.0	<1.0	<1.0
	12/29/2015	11.30	84.99	<1.0	<1.0	<1.0	<1.0
MW06	2/19/2009	17.24	80.10	305	15.8	167	2,476
	3/5/2010	16.47	80.87	1.27	<1.0	8.77	9.60
	9/20/2010	6.95	90.39	<1.0	<1.0	3.51	13.0
	12/2/2010	11.01	86.33	<1.0	<1.0	28.8	205
	3/14/2011	16.91	80.43	<1.00	<1.00	42.8	317
	6/2/2011	14.30	83.04	<1.0	<1.0	2.1	4.9
	9/12/2011	6.51	90.83	<1.0	<1.0	<1.0	<3.0
	12/9/2011	10.80	86.54	<1.0	<1.0	<1.0	<3.0
	3/22/2012	17.08	80.26	<1.0	<1.0	1.46	4.9
	6/8/2012	9.22	88.12	<1	<1	<1	<1

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW06	9/18/2012	8.21	89.13	<1.0	<1.0	<1.0	<1.0
	12/3/2012	9.50	87.84	<1.0	<1.0	<1.0	<1.0
	3/18/2013	16.70	80.64	<1.0	<1.0	2.84	8.79
	6/18/2013	8.89	88.45	<1.0	<1.0	<1.0	<1.0
	9/17/2013	4.23	93.11	<1.0	<1.0	<1.0	<1.0
	12/11/2013	11.36	85.98	<1.0	<1.0	<1.0	<1.0
	3/4/2014	16.94	80.40	1.1	<1.0	<1.0	<1.0
	6/27/2014	7.84	89.50	<1.0	<1.0	<1.0	<1.0
	9/24/2014	7.26	90.08	<1.0	<1.0	<1.0	<1.0
	12/31/2014	11.64	85.70	<1.0	<1.0	<1.0	<1.0
	3/31/2015	17.08	80.26	<1.0	<1.0	<1.0	<1.0
	6/25/2015	8.05	89.29	<1.0	<1.0	<1.0	<1.0
	9/9/2015	6.22	91.12	<1.0	<1.0	<1.0	<1.0
	12/29/2015	12.30	85.04	<1.0	<1.0	<1.0	<1.0
MW07	2/19/2009	19.18	75.41	3.99	7.09	64.1	288.67
	3/5/2010	15.93	78.66	5.47	<1.0	4.11	55.02
	9/20/2010	7.35	87.24	<1.0	<1.0	<1.0	<3.0
	12/2/2010	10.32	84.27	<1.0	<1.0	<1.0	<1.0
	3/14/2011	16.12	78.47	<1.00	<1.00	<1.00	<3.00
	6/2/2011	14.59	80.00	<1.0	<1.0	<1.0	<3.0
	9/12/2011	6.25	88.34	<1.0	<1.0	<1.0	<3.0
	12/9/2011	NM	NM	Could not locate monitoring well			
	3/22/2012	16.42	78.17	<1.0	<1.0	<1.0	<1.0
	6/8/2012	8.65	85.94	<1	<1	<1	<1
	9/18/2012	8.12	86.47	<1.0	<1.0	<1.0	<1.0
	12/3/2012	9.14	85.45	<1.0	<1.0	<1.0	<1.0
	3/18/2013	16.13	78.46	<1.0	<1.0	<1.0	<3.0
	6/18/2013	8.72	85.87	<1.0	<1.0	<1.0	<1.0
	9/17/2013	3.62	90.97	<1.0	<1.0	<1.0	<1.0
	12/11/2013	10.54	84.05	<1.0	<1.0	<1.0	<1.0
	3/4/2014	16.08	78.51	<1.0	<1.0	<1.0	<1.0
	6/27/2014	7.85	86.74	<1.0	<1.0	<1.0	<1.0
	9/24/2014	5.95	88.64	<1.0	<1.0	<1.0	<1.0
	12/31/2014	11.75	82.84	<1.0	<1.0	<1.0	<1.0
Removed from monitoring program							
MW08	2/19/2009	18.03	NM	34.3	2,000	202	4,213
MW08R	9/20/2010	10.90	83.61	1.21	<1.0	118	657.4
	12/2/2010	12.94	81.57	<1.0	<1.0	<1.0	119

TABLE 2 (Continued)

GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW08R	3/14/2011	18.61	75.90	<1.00	<1.00	<1.00	1,070
	6/2/2011	17.80	76.71	<1.0	<1.0	207	587
	9/12/2011	9.66	84.85	<1.0	<1.0	44.6	241
	12/9/2011	12.67	81.84	<1.0	<1.0	9.99	68.6
	3/22/2012	18.67	75.84	<1.0	8.37	16.3	109
	6/8/2012	11.99	82.52	<1	<1	1.7	26.1
	9/18/2012	11.34	83.17	<1.0	<1.0	1.5	4.5
	12/3/2012	11.88	82.63	<1.0	<1.0	2.65	20.2
	3/22/2013	18.68	75.83	<1.0	<1.0	8.47	103
	6/18/2013	12.10	82.41	<1.0	<1.0	1.98	6.85
	9/17/2013	7.41	87.10	<1.0	<1.0	1.65	4.80
	12/11/2013	12.78	81.73	<1.0	<1.0	<1.0	<1.0
	3/4/2014	18.23	76.28	<1.0	<1.0	5.0	14.9
	6/27/2014	11.35	83.16	<1.0	<1.0	<1.0	<1.0
9/24/2014	9.21	85.30	<1.0	<1.0	<1.0	<1.0	
12/31/2014	13.02	81.49	<1.0	<1.0	<1.0	<1.0	
Removed from monitoring program							
MW09	2/19/2009	18.96	NM	1,250	23	19.0	25.28
MW09R	9/20/2010	10.75	82.99	3,350	<1.0	368	1,891.7
	12/2/2010	12.79	80.95	10.2	<10.0	85.2	392
	3/14/2011	17.67	76.07	422	<1.0	200	644
	6/2/2011	17.02	76.72	902	<1.0	303	1,490
	9/12/2011	9.57	84.17	1.1	<1.0	128	609
	12/9/2011	12.50	81.24	1.79	<1.0	13.7	28.5
	3/22/2012	17.81	75.93	1.64	8	14.5	43.4
	6/8/2012	12.34	81.4	<1	<1	5.9	8.9
	9/18/2012	11.43	82.31	<1.0	<1.0	<1.0	<1.0
	12/3/2012	12.00	81.74	<1.0	<1.0	<1.0	<1.0
	3/22/2013	17.92	75.82	<1.0	<1.0	<1.0	<1.0
	6/18/2013	12.70	81.04	<1.0	<1.0	12.7	16
	9/17/2013	7.32	86.42	<1.0	<1.0	<1.0	<1.0
	12/11/2013	12.50	81.24	<1.0	<1.0	<1.0	<1.0
3/4/2014	17.36	76.38	<1.0	<1.0	<1.0	<1.0	
6/27/2014	11.66	82.08	<1.0	<1.0	<1.0	<1.0	
9/24/2014	9.40	84.34	<1.0	<1.0	<1.0	<1.0	
12/31/2014	12.67	81.07	<1.0	<1.0	<1.0	<1.0	
Removed from monitoring program							

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW10	2/19/2009	17.34	76.83	10,300	374	412	2,435
	3/5/2010	16.46	77.71	9,790	581	452	3,707
	9/20/2010	7.70	86.47	4,130	50.0	434	4,280
	12/2/2010	10.83	83.34	1,560	<10.0	33.5	1,100
	3/14/2011	12.25	81.92	1,070	<1.00	12.6	476
	6/2/2011	12.35	81.82	<1.0	<1.0	<1.0	<3.0
	9/12/2011	7.01	87.16	310	<1.0	107	250
	12/9/2011	10.62	83.55	243	<1.0	53.2	279
	3/22/2012	16.37	77.80	30.3	1.75	<1.0	<1.0
	6/8/2012	9.60	84.57	18.2	<1	<1	<1
	9/18/2012	8.78	85.39	<1.0	<1.0	<1.0	<1.0
	12/3/2012	10.02	84.15	<1.0	<1.0	<1.0	<1.0
	3/18/2013	16.30	77.87	<1.0	<1.0	<1.0	<3.0
	6/18/2013	10.34	83.83	28.8	<1.0	<1.0	<1.0
	9/17/2013	4.09	90.08	<1.0	<1.0	<1.0	<1.0
	12/11/2013	10.78	83.39	<1.0	<1.0	<1.0	<1.0
	3/4/2014	15.95	78.22	<1.0	<1.0	<1.0	<1.0
	6/27/2014	9.06	85.11	2.2	<1.0	<1.0	<1.0
	9/24/2014	7.09	87.08	1.7	<1.0	<1.0	<1.0
	12/31/2014	10.67	83.50	<1.0	<1.0	<1.0	<1.0
3/31/2015	16.09	78.08	<1.0	<1.0	<1.0	<1.0	
6/25/2015	9.01	85.16	<1.0	<1.0	<1.0	<1.0	
9/9/2015	7.00	87.17	<1.0	<1.0	<1.0	<1.0	
12/29/2015	11.65	82.52	<1.0	<1.0	<1.0	<1.0	
MW11	2/19/2009	17.67	78.49	6,130	48.5	43.4	818.6
	3/5/2010	16.38	79.78	10,500	<1.0	10.1	497
	9/20/2010	7.20	88.96	2,670	<1.0	<1.0	235.88
	12/2/2010	11.55	84.61	835	<10.0	<10.0	57.1
	3/14/2011	16.27	79.89	180	<1.00	<1.00	<3.00
	6/2/2011	13.82	82.34	<1.0	<1.0	<1.0	<3.0
	9/12/2011	7.11	89.05	<1.0	<1.0	<1.0	<3.0
	12/9/2011	11.31	84.85	<1.0	<1.0	<1.0	<3.0
	3/22/2012	16.85	79.31	<1.0	2	<1.0	<1.0
	6/8/2012	9.76	86.40	<1	<1	<1	<1
	9/18/2012	8.87	87.29	<1.0	<1.0	<1.0	<1.0
	12/3/2012	10.78	85.38	<1.0	<1.0	<1.0	<1.0
	3/18/2013	16.98	79.18	<1.0	<1.0	<1.0	<3.0
	6/18/2013	10.55	85.61	<1.0	<1.0	<1.0	<1.0
	9/17/2013	4.61	91.55	<1.0	<1.0	<1.0	<1.0

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW11	12/11/2013	11.42	84.74	<1.0	<1.0	<1.0	<1.0
	3/4/2014	16.35	79.81	<1.0	<1.0	<1.0	<1.0
	6/27/2014	8.92	87.24	<1.0	<1.0	<1.0	<1.0
	9/24/2014	7.33	88.83	<1.0	<1.0	<1.0	<1.0
	12/31/2014	11.32	84.84	<1.0	<1.0	<1.0	<1.0
	3/31/2015	16.46	79.70	<1.0	<1.0	<1.0	<1.0
	6/25/2015	9.34	86.82	<1.0	<1.0	<1.0	<1.0
	9/9/2015	7.24	88.92	<1.0	<1.0	<1.0	<1.0
	12/29/2015	12.28	83.88	<1.0	<1.0	<1.0	<1.0
MW12	2/19/2009	14.81	81.95	1,970	257	138	423
	3/5/2010	14.63	82.13	465	24.5	42.7	199.9
	9/20/2010	4.10	92.66	9.92	<1.0	<1.0	171.07
	12/2/2010	13.41	83.35	<1.0	<1.0	<1.0	<1.0
	3/14/2011	14.91	81.85	2.35	<1.00	13.5	250
	6/2/2011	10.42	86.34	<1.0	<1.0	<1.0	<3.0
	9/12/2011	3.47	93.29	58.7	<1.0	<1.0	6.4
	12/9/2011	10.35	86.41	<1.0	<1.0	<1.0	<3.0
	3/22/2012	15.25	81.51	<1.0	2	1.4	4.98
	6/8/2012	5.76	91.00	12.8	<1	3.7	13.7
	9/18/2012	4.41	92.35	<1.0	<1.0	<1.0	1.4
	12/3/2012	10.34	86.42	<1.0	<1.0	<1.0	<1.0
	3/18/2013	15.33	81.43	<1.0	<1.0	1.41	<3.0
	6/18/2013	8.31	88.45	19.8	<1.0	<1.0	<1.0
	9/17/2013	2.40	94.36	1.13	<1.0	<1.0	<1.0
	12/11/2013	10.07	86.69	<1.0	<1.0	<1.0	<1.0
	3/4/2014	14.35	82.41	<1.0	<1.0	<1.0	<1.0
	6/27/2014	5.38	91.38	3.3	<1.0	<1.0	<1.0
	9/24/2014	5.13	91.63	1.1	<1.0	<1.0	<1.0
	12/31/2014	8.89	87.87	<1.0	<1.0	<1.0	<1.0
Removed from monitoring program							
MW13	2/19/2009	15.13	83.32	<1.0	<1.0	<1.0	<3.0
	3/5/2010	15.11	83.34	<1.0	<1.0	<1.0	<3.0
	9/20/2010	3.80	94.65	<1.0	<1.0	<1.0	<3.0
	12/2/2010	10.60	87.85	<1.0	<1.0	<1.0	<1.0
	3/14/2011	15.21	83.24	<1.00	<1.00	<1.00	<3.00
	6/2/2011	7.41	91.04	<1.0	<1.0	<1.0	<3.0
	9/12/2011	2.94	95.51	<1.0	<1.0	<1.0	<3.0
	12/9/2011	11.04	87.41	<1.0	<1.0	<1.0	<3.0

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW13	3/22/2012	15.73	82.72	<1.0	1.87	<1.0	<1.0
	6/8/2012	5.01	93.44	<1	<1	<1	<1
	9/18/2012	3.77	94.68	<1.0	<1.0	<1.0	<1.0
	12/3/2012	10.90	87.55	<1.0	<1.0	<1.0	<1.0
	3/18/2013	15.76	82.69	<1.0	<1.0	<1.0	<3.0
	6/18/2013	7.36	91.09	<1.0	<1.0	<1.0	<1.0
	9/17/2013	2.48	95.97	<1.0	<1.0	<1.0	<1.0
	12/11/2013	10.68	87.77	<1.0	<1.0	<1.0	<1.0
	3/4/2014	14.81	83.64	<1.0	<1.0	<1.0	<1.0
	6/27/2014	4.70	93.75	<1.0	<1.0	<1.0	<1.0
	9/24/2014	4.85	93.60	<1.0	<1.0	<1.0	<1.0
	12/31/2014	9.23	89.22	<1.0	<1.0	<1.0	<1.0
				Removed from monitoring program			
MW14	2/19/2009	14.32	NM	<1.0	<1.0	<1.0	<3.0
				Monitoring well destroyed			
MW15	2/19/2009	14.95	78.55	2,490	3,380	150	1,732
	3/5/2010	13.00	80.50	998	1,890	141	2,026
	9/20/2010	2.80	90.70	107	<1.0	<1.0	417.3
	12/2/2010	8.24	85.26	133	<1.0	<1.0	470
	3/14/2011	12.96	80.54	181	<1.00	135	1,580
	6/2/2011	7.44	86.06	35.4	<1.0	15.6	308
	9/12/2011	2.44	91.06	15.2	<1.0	29.1	249
	12/9/2011	10.30	83.20	<1.0	<1.0	<1.0	<3.0
	3/22/2012	15.31	78.19	<1.0	2.09	<1.0	<1.0
	6/8/2012	5.40	88.10	<1	<1	<1	<1
	9/18/2012	6.38	87.12	<1.0	<1.0	<1.0	<1.0
	12/3/2012	10.06	83.44	<1.0	<1.0	<1.0	<1.0
	3/18/2013	13.81	79.69	36.9	<1.0	60.5	84.6
	6/18/2013	9.20	84.30	<1.0	<1.0	<1.0	<1.0
	9/17/2013	1.02	92.48	7.73	<1.0	9.72	21.9
	12/11/2013	10.16	83.34	<1.0	<1.0	<1.0	<1.0
	3/4/2014	14.58	78.92	<1.0	<1.0	<1.0	<1.0
	6/27/2014	6.85	86.65	<1.0	<1.0	<1.0	<1.0
	9/24/2014	3.89	89.61	<1.0	<1.0	7.1	10.0
	1/8/2015	7.90	85.60	<1.0	1.4	5.0	2.5
3/31/2015	12.62	80.88	2.0	<1.0	104	159	
6/24/2015	5.72	87.78	<1.0	<1.0	<1.0	8.7	
9/9/2015	2.70	90.80	<1.0	<1.0	3.0	5.2	
12/29/2015	8.89	84.61	<1.0	<1.0	2.6	4.2	

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW16	2/19/2009	15.25	NM	1,060	16.2	156	37.5
MW16R	3/22/2012	15.58	NM	<1.0	<1.0	<1.0	<1.0
	6/8/2012	8.59	NM	1.1	<1	4.2	<1
	9/18/2012	6.78	NM	3.1	<1.0	2.8	<1.0
	12/3/2012	10.71	NM	<1.0	<1.0	<1.0	<1.0
	3/19/2013	15.91	NM	2.52	<1.0	<1.0	<3.0
	6/18/2013	10.81	NM	19.7	<1.0	<1.0	<1.0
	9/17/2013	3.37	NM	<1.0	<1.0	<1.0	<1.0
	12/11/2013	10.48	NM	<1.0	<1.0	<1.0	<1.0
	3/4/2014	14.80	NM	<1.0	<1.0	<1.0	<1.0
	6/27/2014	8.00	NM	6.1	<1.0	<1.0	<1.0
	9/24/2014	6.56	NM	<1.0	<1.0	<1.0	<1.0
	12/31/2014	9.64	84.59	<1.0	<1.0	<1.0	<1.0
	3/31/2015	14.90	79.33	<1.0	<1.0	<1.0	<1.0
	6/24/2015	8.65	85.58	<1.0	<1.0	<1.0	<1.0
	9/9/2015	5.44	88.79	<1.0	<1.0	<1.0	<1.0
	12/29/2015	11.18	83.05	<1.0	<1.0	<1.0	<1.0
MW17	2/19/2009	15.93 <15.91>	NM	3,680	9,940	775	1,075
MW17R	9/20/2010	7.92	84.99	<1.0	<1.0	46.1	256.31
	12/2/2010	11.10	81.81	3.10	<1.0	112	570
	3/14/2011	15.62	77.29	9.19	<1.00	52.6	470
	6/2/2011	13.53	79.38	3.4	<1.0	16.5	448
	9/12/2011	6.93	85.98	<1.0	<1.0	45.1	275
	12/9/2011	11.11	81.80	9.28	<1.0	141	1,090
	3/22/2012	15.89	77.02	5.4	2.59	85.3	616
	6/8/2012	10.44	82.47	4.1	<1	117	668
	9/18/2012	9.07	83.84	5.2	<1.0	95.1	522
	12/3/2012	10.98	81.93	24.8	<1.0	97.5	684
	3/22/2013	16.16	76.75	51.4	<1.0	158	1,460
	6/18/2013	11.84	81.07	3.23	<1.0	82.1	474
	9/17/2013	4.61	88.30	3.26	<1.0	40.7	145
	12/11/2013	11.03	81.88	<4.0	<4.0	106	769
	3/4/2014	15.31	77.60	<4.0	<4.0	51.6	351
	6/27/2014	9.76	83.15	<4.0	<4.0	40.8	430
	9/24/2014	7.70	85.21	2.2	<1.0	49.4	337
	12/31/2014	10.65	82.26	2.0	<1.0	31.6	238
	3/31/2015	15.45	77.46	<1.0	<1.0	26.4	90.8
	6/25/2015	9.78	83.13	<1.0	<1.0	13.3	116
	9/9/2015	7.15	85.76	<1.0	<1.0	11.6	38.4
	12/29/2015	11.85	81.06	<1.0	<1.0	34.8	74.6

TABLE 2 (Continued)

GROUNDWATER ANALYTICAL RESULTS
 CHESNUT G 22-6 TANK BATTERY
 WELD COUNTY, COLORADO
 NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW18	2/19/2009	16.22	NM	1,410	80.9	51.0	229.6
MW18R	3/14/2011	16.25	75.85	<1.00	<1.00	<1.00	<3.00
	6/2/2011	15.24	76.86	<1.0	<1.0	<1.0	<3.0
	9/12/2011	8.76	83.34	<1.0	<1.0	<1.0	<3.0
Abandoned per COGCC approval							
MW19	2/25/2009	16.67	NM	329	<1.0	1.45	6.65
MW19R	3/14/2011	17.44	74.27	<1.00	<1.00	<1.00	<3.00
	6/2/2011	16.96	74.75	<1.0	<1.0	<1.0	<3.0
	9/12/2011	10.61	81.10	<1.0	<1.0	<1.0	<3.0
Abandoned per COGCC approval							
MW20	2/25/2009	17.55	NM	2.13	2.34	16.0	3.27
Monitoring well destroyed							
MW21	2/25/2009	16.87	NM	2.00	<1.0	<1.0	11.9
Monitoring well destroyed							
MW22	2/25/2009	16.70	NM	8.70	40.7	3.78	22.65
Monitoring well destroyed							
MW23	2/25/2009	15.25	NM	32.9	5.29	9.01	38.36
MW23R	3/22/2012	16.20	NM	<1.0	2.33	<1.0	<1.0
	6/8/2012	9.38	NM	<1	<1	<1	<1
	9/18/2012	7.33	NM	<1.0	<1.0	<1.0	1.3
	12/3/2012	11.88	NM	<1.0	<1.0	<1.0	<1.0
	3/19/2013	16.67	NM	<1.0	<1.0	<1.0	<3.0
	6/18/2013	11.73	NM	<1.0	<1.0	<1.0	<1.0
	9/17/2013	4.33	NM	<1.0	<1.0	<1.0	<1.0
	12/11/2013	11.26	NM	<1.0	<1.0	<1.0	<1.0
	3/4/2014	15.31	NM	<1.0	<1.0	<1.0	<1.0
	6/27/2014	8.75	NM	<1.0	<1.0	<1.0	<1.0
	9/24/2014	7.40	NM	<1.0	<1.0	<1.0	<1.0
	12/31/2014	10.35	83.73	<1.0	<1.0	<1.0	<1.0
	3/31/2015	15.43	78.65	<1.0	<1.0	<1.0	<1.0
	6/24/2015	9.25	84.83	<1.0	<1.0	<1.0	<1.0
	9/9/2015	5.97	88.11	<1.0	<1.0	<1.0	<1.0
	12/29/2015	11.90	82.18	<1.0	<1.0	<1.0	<1.0
MW24	2/25/2009	14.87	NM	1.02	<1.0	<1.0	<3.0
Monitoring well destroyed							

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW25	2/25/2009	18.20	NM	<1.0	<1.0	<1.0	4.01
	3/5/2010	17.46	NM	<1.0	<1.0	<1.0	<3.0
					Monitoring well destroyed		
MW26	2/25/2009	18.02	78.14	<1.0	<1.0	<1.0	<3.0
	3/5/2010	17.36	78.80	<1.0	<1.0	<1.0	<3.0
	9/20/2010	5.10	91.06	<1.0	<1.0	<1.0	<3.0
	12/2/2010	8.78	87.38	<1.0	<1.0	<1.0	<1.0
	3/14/2011	15.63	80.53	<1.00	<1.00	<1.00	<3.00
	6/2/2011	11.67	84.49	<1.0	<1.0	<1.0	<3.0
	9/12/2011	4.02	92.14	<1.0	<1.0	<1.0	<3.0
	12/9/2011	NM	NM	<1.0	<1.0	<1.0	<3.0
	3/22/2012	--	--		Not Sampled - Dry		
	6/8/2012	5.99	90.17	<1	<1	<1	<1
	9/18/2012	5.69	90.47	<1.0	<1.0	<1.0	<1.0
	12/3/2012	7.26	88.90	<1.0	<1.0	<1.0	<1.0
	3/18/2013	--	--		Not Sampled - Dry		
	6/18/2013	5.91	90.25	<1.0	<1.0	<1.0	<1.0
	9/17/2013	2.20	93.96	<1.0	<1.0	<1.0	<1.0
	12/11/2013	9.49	86.67	<1.0	<1.0	<1.0	<1.0
3/4/2014	--	--		Not Sampled - Dry			
6/27/2014	5.23	90.93	<1.0	<1.0	<1.0	<1.0	
					Monitoring well destroyed		
MW27	2/25/2009	19.98	NM	<1.0	<1.0	<1.0	<3.0
					Monitoring well destroyed		
MW28	2/25/2009	15.82	NM	<1.0	<1.0	<1.0	<3.0
					Monitoring well destroyed		
MW29	2/25/2009	16.77	NM	<1.0	<1.0	<1.0	<3.0
					Monitoring well destroyed		
MW30	2/25/2009	16.86	NM	<1.0	<1.0	<1.0	<3.0
					Monitoring well destroyed		
MW31	3/14/2011	14.83	76.86	<1.00	<1.00	<1.00	<3.00
	6/2/2011	11.11	80.58	<1.0	<1.0	<1.0	<3.0
					Monitoring well destroyed		

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water/<LNAPL> (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW32	3/14/2011	18.47	72.41	<1.00	<1.00	<1.00	<3.00
	6/2/2011	18.27	72.61	<1.0	<1.0	<1.0	<3.0
	9/12/2011	12.92	77.96	<1.0	<1.0	<1.0	<3.0
Abandoned per COGCC approval							
CDPHE WQCC Reg 41 Standard				5.0	560	700	1,400

NOTES:

btoc - below top of casing

COGCC - Colorado Oil and Gas Conservation Commission

µg/L - micrograms per liter

LNAPL - light non-aqueous phase liquid

NM - not measured

< - indicates result is less than the stated laboratory reporting limit

-- - not applicable

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B or 8260C

BOLD indicates result exceeds applicable standard

CDPHE WQCC Reg 41 - Colorado Department of Public Health and Environment-Water Quality Control Commission
Regulation 41-The Basic Standards for Ground Water

TABLE 3

**SOIL ANALYTICAL RESULTS
CHESNUT G 22-6 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Soil Sample	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)
MW03R@12'	3/4/2013	<0.0050	<0.0050	<0.0050	<0.0050	NA	26	260	286
MW05R@12'	4/1/2015	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.50	<50	<50.50
COGCC Table 910-1 Standard		0.17	85	100	175	23	--	--	500

NOTES:

COGCC - Colorado Oil and Gas Conservation Commission

DRO - diesel range organics analyzed by EPA Method 8015

GRO - gasoline range organics analyzed by EPA Method 8260B

mg/kg - milligrams per kilogram

NA - not analyzed

TPH- total petroleum hydrocarbons is the sum of GRO and DRO

< - indicates result is less than the stated laboratory method reporting limit

-- - not applicable

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B

ATTACHMENT 1
LABORATORY ANALYTICAL REPORT



January 05, 2016

LT Environmental, Inc.

Charles Greeson

4600 West 60th Avenue

Arvada CO 80003

Project Name - Noble - Chesnut G 22-6

Project Number - NEP0839

Attached are your analytical results for Noble - Chesnut G 22-6 received by Origins Laboratory, Inc. December 29, 2015. This project is associated with Origins project number X512387-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW02	X512387-01	Water	December 29, 2015 15:25	12/29/2015 16:54
MW03R	X512387-02	Water	December 29, 2015 15:12	12/29/2015 16:54
MW04	X512387-03	Water	December 29, 2015 15:01	12/29/2015 16:54
MW05R	X512387-04	Water	December 29, 2015 15:42	12/29/2015 16:54
MW06	X512387-05	Water	December 29, 2015 13:40	12/29/2015 16:54
MW10	X512387-06	Water	December 29, 2015 14:02	12/29/2015 16:54
MW11	X512387-07	Water	December 29, 2015 13:50	12/29/2015 16:54
MW15	X512387-08	Water	December 29, 2015 14:45	12/29/2015 16:54
MW16R	X512387-09	Water	December 29, 2015 14:30	12/29/2015 16:54
MW17R	X512387-10	Water	December 29, 2015 14:10	12/29/2015 16:54

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW23R	X512387-11	Water	December 29, 2015 14:36	12/29/2015 16:54

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

www.originslaboratory.com

page 1 of 2

517387

ORIGINS
LABORATORY, INC

Client: LT Environmental, Inc.
 Address: 4600 West 60th Ave, Arvada, CO
 Telephone Number: 303-433-9788
 Email Address: Noble Remediation Team

Project Manager: Charles Greeson
 Project Name: Chesnut G 22-6
 Project Number: NEP0839
 Samples Collected By: *GUINN THOMPSON*

Invoice Jacob Evans

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other			
MW02	12/29/15	1525	3	X				X					Lab filter all samples	1
MW03		1512	3	X				X						2
MW04		1501	3	X				X						3
MW05		1542	1	X				X						4
MW06		1340	3	X				X						5
MW10		1402	3	X				X						6
MW11		1350	3	X				X						7
MW15		1445	3	X				X						8
MW16		1430	3	X				X						9
MW17		1410	3	X				X						10
Relinquished By:	Date:	Time:	Time:	Received By:				Date:	Time:	Turnaround Time:				
<i>[Signature]</i>	12/29/15	1654	1654	<i>[Signature]</i>				12/29/15	1654	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>				
Relinquished By:	Date:	Time:	Time:	Received By:				Date:	Time:					
				<i>[Signature]</i>				12/29/15	1654					

Origins Laboratory, Inc.

Jefe Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: XS12387

Client: LTE

Client Project ID: Chesnut G 22-6

Checklist Completed by: Jen Pellegrini

Shipped Via: H/D
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 12/30/15

Airbill #: NA

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: (Describe)

Cooler Number/Temperature: 1 / 5.4 °C 1 / °C 1 / °C 1 / °C

Thermometer ID: 7003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Only 1 vial received for sample mw16K
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample mw16K on COC is mw16K on containers
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):	confirmed w/ Chuck via email, the correct ID is mw16K			

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 12/30/15

Origins Laboratory, Inc.

Jen Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

MW02
12/29/2015 3:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	96.0 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.3 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

MW03R

12/29/2015 3:12:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-02 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.4 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

MW04
12/29/2015 3:01:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.3 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.5 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

MW05R

12/29/2015 3:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.7 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

MW06
12/29/2015 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-05 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	96.8 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.5 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

MW10
12/29/2015 2:02:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-06 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.8 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.5 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

MW11
 12/29/2015 1:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X512387-07 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	92.7 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

MW15
 12/29/2015 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X512387-08 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	2.6	1.0	"	"	"	"	"	
Xylenes, total	4.2	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.0 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

MW16R
12/29/2015 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-09 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	96.7 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.3 %	84-114			"	"	"	

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

MW17R
12/29/2015 2:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-10 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	34.8	1.0	"	"	"	"	"	
Xylenes, total	74.6	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.4 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.9 %	84-114			"	"	"	

Origins Laboratory, Inc.



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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

MW23R

12/29/2015 2:36:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512387-11 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5L3001	12/30/2015	12/30/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.3 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.7 %	84-114			"	"	"	

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5L3001 - EPA 5030B (Water)

Blank (B5L3001-BLK1)

Prepared: 12/30/2015 Analyzed: 12/30/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5	106		84-121			
Surrogate: Toluene-d8	61		"	62.5	97.3		85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.7		84-114			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5L3001 - EPA 5030B (Water)

LCS (B5L3001-BS1)

Prepared: 12/30/2015 Analyzed: 12/30/2015

Benzene	50.2	1.0	ug/L	50.0		100	73.3-129			
Toluene	47.4	1.0	"	50.0		94.9	76.2-123			
Ethylbenzene	47.3	1.0	"	50.0		94.7	73.6-130			
m,p-Xylene	94.6	2.0	"	100		94.6	76.1-126			
o-Xylene	47.3	1.0	"	50.0		94.6	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.6	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.2	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.7	84-114			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5L3001 - EPA 5030B (Water)

Matrix Spike (B5L3001-MS1)	Source: X512382-04			Prepared: 12/30/2015 Analyzed: 12/30/2015						
Benzene	51.4	1.0	ug/L	50.0	ND	103	74-130			
Toluene	49.0	1.0	"	50.0	ND	98.0	73-131			
Ethylbenzene	48.8	1.0	"	50.0	ND	97.7	76-132			
m,p-Xylene	98.8	2.0	"	100	ND	98.8	69-139			
o-Xylene	49.6	1.0	"	50.0	ND	99.2	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		100	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.7	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Charles Greeson
 Project Number: NEP0839
 Project: Noble - Chesnut G 22-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5L3001 - EPA 5030B (Water)

Matrix Spike Dup (B5L3001-MSD1)	Source: X512382-04			Prepared: 12/30/2015 Analyzed: 12/30/2015						
Benzene	52.2	1.0	ug/L	50.0	ND	104	74-130	1.70	20	
Toluene	49.3	1.0	"	50.0	ND	98.5	73-131	0.529	20	
Ethylbenzene	48.8	1.0	"	50.0	ND	97.5	76-132	0.164	20	
m,p-Xylene	98.2	2.0	"	100	ND	98.2	69-139	0.650	20	
o-Xylene	49.5	1.0	"	50.0	ND	99.0	74-131	0.242	20	
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		100	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.5	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Charles Greeson
Project Number: NEP0839
Project: Noble - Chesnut G 22-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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Jen Pellegrini For Noelle Doyle Mathis, President